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MEMORANDUM **CH2MHILL**

Responses to EPA's Comments on the Draft Human Health Risk Assessment, SWMUs 2B, 2C, and 2E, Oceana NAS

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This memorandum summarizes the responses to the EPA's comments on the Draft Human Health Risk Assessment dated October 16, 2001.

1. **Section 3.4, Risk Characterization: For completeness, this section should note that potential migration of soil contaminants to groundwater will be considered at a different point in the overall project.**

RESPONSE: Comment will be incorporated.

2. **Section 3.1.2, Selection of Chemicals of Potential Concern:**

   a. **While contaminants were screened against MCLs in addition to tap water RBCs; screening against MCLs or other ARARs is not described in this section.**

   b. **Lead concentrations in soil were screened against levels protective of residential receptors as directed in the earlier memo. Further evaluation of lead should also be performed for lead levels exceeding screening levels using EPA's IEUBK and adult lead models.**

RESPONSE:

   a. The section will be rewritten to include the following statement: *Contaminants were conservatively screened against both the applicable MCL and RBC value. Contaminants which exceeded either screening value were selected as a COPC.*

   b. Lead levels exceeding screening levels will be evaluated using EPA's IEUBK and adult models.

3. **Section 3.2.2, Quantification of Exposure: Evaluation of construction worker exposure to groundwater in an excavation trench should use the same exposure point**

concentrations that were developed for evaluation of future groundwater receptors. This change appears to have been made for some, but not all, contaminants in excavation trench evaluations.

RESPONSE: The exposure point concentrations for the construction worker scenario will be revised accordingly.

4. **Section nos. 4.4.5, 5.4.5, and 6.4.5, Summary of Total Risks Across Pathways and Media: As requested, hazard indices exceeding 1 were segregated by individual target organ in appendices to the report. It would be helpful if a discussion of this process were included in the risk characterization section for each SWMU, especially where such segregation resulted in target organ hazard indices below 1.**

RESPONSE: A discussion will be included in the risk characterization section.

5. **Appendices A, B, and C:**

   a. **Table nos. 5.1, 5.2, 6.1, and 6.2: Revised toxicity criteria should be (e.g., iron, vinyl chloride) used in risk calculations, in particular where new risk estimates will fall below EPA levels of concern.**

   b. **Table nos. 4.xx: All tables listing values used for daily intake calculations have a note for the chemical concentration that reads "see Table ---." For completeness and ease of review, the accompanying table number should be inserted.**

RESPONSE: The comments will be incorporated.

6. **Appendix C, RME Supplement tables, Calculation of Da_{event}: The source for the inputs for dermally absorbed dose equation, namely Kp, t*, tau and B should be provided for pyrene as well as for other constituents whose values do not appear in EPA's Dermal Exposure Guidance document. The values for pyrene should be based on a reliable source, because dermal exposure to this constituents in excavation trench water resulted in a hazard quotient exceeding EPA's level of concern of 1.**

RESPONSE: The source will be provided.

7. **Appendix C, Table nos. 5.1 and 6.1: Table 5.1 lists an oral to dermal adjustment factor of 50% for acrylonitrile, while 6.1 lists an oral to dermal adjustment factor of 80% for this constituent. Please revise, and recalculate appropriate dermal risks.**

RESPONSE: Tables will be revised with the adjustment factor of 50% and dermal risks will be recalculated accordingly.